

09/734,761

IN THE CLAIMS:

1. --- (Previously Amended) A grid, adaptable for use with an electromagnetic energy emitting device, comprising:

at least one metal layer comprising:

top and bottom surfaces and a first and second edge extending in first and second direction transverse of each other;

a plurality of integrated, intersecting walls, each of which extending from said top to bottom surface and having a plurality of side surfaces, said side surfaces of said walls being arranged to define a plurality of openings extending entirely through said layer, each intersection point of said intersecting walls including additional wall material in at least one of the metal layers which extends into at least one of said openings;

said each respective additional wall material is arranged such that a total amount of material of said walls intersected by a line propagating in a first direction for the length of one period along the grid is substantially the same for any period along the first direction; and

said each respective additional wall material is arranged such that a total amount of material of said walls intersected by a line beginning at said second edge and propagating in a first direction for a first distance including at least one period along the grid and extending substantially parallel to said first edge is substantially the same as another total amount of material of said walls intersected by another line beginning at said second edge at any distance from a point on said second edge from which the first direction extends and propagating in a second direction, substantially parallel to said first direction, for a second distance substantially equal to said first distance.

2. (Previously Amended) A grid as claimed in claim 1, wherein:

said intersecting walls form said openings in a periodic pattern in a direction along said top surface and in a direction perpendicular to said direction.

09/734761

Claims 3-5 are canceled.

6. (Previously Amended) A grid as claimed in claim 1, wherein:

at at least one said intersection point, said respective additional wall material is configured in a plurality of portions extending in opposite directions into different ones of said openings.

7. (Previously Amended) A grid as claimed in claim 6, wherein:

each of said plurality of portions of said respective additional wall material have substantially the same area.

8. (Previously Amended) A grid as claimed in claim 6, wherein:

said plurality of portions of said respective additional wall material have areas different from each other.

9. (Previously Amended) A grid as claimed in claim 1, wherein:

said additional wall material at at least one said intersection point has two portions, each extending from a different one of said walls.

10. (Original) A grid as claimed in claim 9, wherein:

said two sides extend substantially perpendicular to each other.

11. (Original) A grid as claimed in claim 9, wherein:

said two sides extend at an angle other than 90° with respect to each other.

09/734,761

12. (Previously Amended) A grid as claimed in claim 1, wherein:
said additional wall material at at least one said intersection point has a side
extending in a substantially straight direction between two of said walls.
13. (Previously Amended) A grid as claimed in claim 1, wherein:
at least one of said openings has a material disposed therein which is adapted to
permit said electromagnetic energy to pass therethrough, and a second material suspended
in said material which is adapted to substantially prohibit said electromagnetic energy from
passing therethrough.
14. (Original) A grid as claimed in claim 1, wherein:
at least one of said walls has a thickness different from at least one other of said
walls.
15. (Original) A grid as claimed in claim 1, wherein:
at least some of said walls intersect at an angle other than 90° with respect to each
other.
16. (Original) A grid as claimed in claim 1, further comprising a plurality of
said layers which are stacked on top of each other such that walls of the layers are
substantially aligned so that the openings in the layers are substantially aligned to form
openings which pass entirely through the grid.
17. (Previously Amended) A grid as claimed in 1, wherein:
said additional wall material at each said intersection point is connected to at least
one of said walls.
18. (Previously Amended) A grid as claimed in claim 1, wherein:

said additional wall material at at least one said intersection point is separated from all of said walls.

19. (Original) A grid as claimed in 1, further comprising:

at least one second metal layer, comprising:

second top and bottom surfaces; and

a plurality of integrated, intersecting second walls, each of which extending from said second top to bottom surface and having a plurality of second side surfaces; said second side surfaces of said second walls being arranged to define a plurality of second openings extending entirely through said second layer; and

said first and second layers are stacked on top of each other such that said first and second walls of said first and second layers are substantially aligned so that said first and second openings in said first and second layers are substantially aligned to form openings which pass entirely through the grid.

20. (Original) A grid as claimed in claim 19, wherein:

said first layer includes a material different from a material included in said second layer.

21. (Original) A grid as claimed in claim 1, comprising:

a plurality of said layers, at least one of said layers including a material different from a material included in any other of said layers.

22. (Original) A grid as claimed in claim 1, wherein:

at least one said layer is attached to a substrate.

23. (Previously Amended) A grid as claimed in 1, wherein:

said walls extend between said top and bottom surfaces at respective angles to focus at a point which is at a distance above or below from said top surface of said grid.

09/734,761

24. (Original) A grid as claimed in 1, wherein:
said walls extend between said top and bottom surfaces substantially parallel to each other.

25. (Original) A grid is claimed in 1, wherein:
a first group of said walls extending along said grid in a first direction parallel to said top and bottom surfaces are substantially parallel to each other; and
a second group of said walls extending along said grid in a second direction parallel to said top and bottom surfaces each extend between said top and bottom surfaces at a respective angle with respect to said top and bottom surfaces to focus at a line extending in a direction substantially parallel to said top surface at a distance from said top surface.

26. (Original) A grid as claimed in 1, wherein:
at least one said layer includes a plurality of sections, adapted to couple together to form said at least one said layer.

Claims 27-69 are canceled.

70. (Currently Amended) A method of motion adaptable for use for x-ray imaging mammography of a grid, comprising the following steps:

moving said grid along a substantially straight line, at a substantially uniform speed, wherein said grid comprises:

at least one metal layer comprising:

top and bottom surfaces ~~that are substantially flat~~ and a first and second edge extending in a first and second direction transverse of each other;

a plurality two-sets of integrated, intersecting walls, each of which extending from said top to bottom surface and having a plurality of side surfaces, said side surfaces of said walls being arranged to define a plurality of square openings

09/134761

extending entirely through said layer, ~~said intersecting walls form said openings in a periodic pattern, where the periodicity is the dimension of the square;~~

~~said squares are at substantially 45 degree angle with respect to the line of grid motion;~~

~~said grid walls are substantially focused to a point above the grid; and
said location of the focus of the grid is chosen such that a line drawn from the center of the edge of the grid along the line of grid motion to the focus of the grid walls is substantially perpendicular to the top surface of the grid;~~

~~moving said grid along a substantially straight line at a substantially uniform speed; and~~

each intersection point of said intersecting walls including additional wall material in at least one of the metal layers which extends into at least one of said openings;

said each respective additional wall material is arranged such that a total amount of material of said walls intersected by a line propagating in a first direction for the length of one period along the grid is substantially the same for any period along the first direction; and

said each respective additional wall material is arranged such that a total amount of material of said walls intersected by a line beginning at said second edge and propagating in a first direction for a first distance including at least one period along the grid and extending substantially parallel to said first edge is substantially the same as another total amount of material of said walls intersected by another line beginning at said second edge at any distance from a point on said second edge from which the first direction extends and propagating in a second direction, substantially parallel to said first direction, for a second distance substantially equal to said first distance; and

wherein said moving step moves said grid more than one period during the mammography x-ray imaging.

71. (Currently Amended) A method of motion adaptable for use for mammography x-ray imaging of a grid, comprising the following steps:

09/734761

moving said grid along a substantially straight line, at a substantially uniform speed, wherein said grid comprises:

at least one metal layer comprising:

top and bottom surfaces that are substantially flat;

two sets of intersecting walls, said surfaces of said walls being arranged to define a plurality of square openings extending entirely through said layers, said intersecting walls form said openings in a periodic pattern, where the periodicity is the dimension of the square;

said squares are at substantially 45 degree angle with respect to the line of grid motion;

said grid walls are substantially focused to a point above the grid; -and

said location of the focus of the grid is chosen such that a line drawn from the center of the edge of the grid along the line of grid motion to the focus of the grid walls is substantially perpendicular to the top surface of the grid; The method according to claim 70, wherein:

said openings include an additional thickness in the intersection of the walls;

said additional thicknesses are arranged such that a total length of said walls intersected by a line propagating in the line of grid motion for the length of one period along the grid is substantially the same for any period along the line of grid motion;

said additional thicknesses are additionally arranged such that a total length of said walls intersected by a first line propagating in the line of grid motion for a first distance including at least one period along the grid is substantially the same as another total length of said walls intersected by another line substantially parallel to said first line for a second distance substantially equal to said first distance; -and

moving said grid more than one period during the x-ray imaging.

72. (Currently Amended) A method of motion adaptable for use for mammography x-ray imaging of a grid, comprising the following steps:

09/734,761

moving a grid assembly along a substantially straight line, wherein said grid assembly comprises a first and second grid, wherein the first grid comprises: at least one metal layer comprising:

- top and bottom surfaces that are substantially flat;
- two sets of intersecting walls, said surfaces of said walls being arranged to define a plurality of substantially square openings extending entirely through said layers, said intersecting walls form said openings in a periodic pattern, where the periodicity is the dimension of the square;

- said squares are at a substantially 45 degree angle with respect to the line of grid motion;

- said grid walls are focused to a point above the grid;

- said location of the focus of the grid is chosen such that a line drawn from the center of the edge of the grid along the line of grid motion to the focus of the grid walls is substantially perpendicular to the top surface of the grid;

- said second grid is substantially the same as the first grid except that said openings include an additional thickness in the intersection of the walls;
- said additional thicknesses are arranged such that a total length of said walls intersected by a line propagating in line of grid motion for the length of one period along the grid is substantially the same for any period along the line of grid motion;

- said additional thicknesses are additionally arranged such that a total length of said walls intersected by a first line propagating in the line of grid motion for a first distance including at least one period along the grid is substantially the same as another total length of said walls intersected by another line substantially parallel to said first line for a second distance substantially equal to said first distance;

- said first and second grids are substantially aligned;

- moving said first and second grid along a substantially straight line at a substantially uniform speed; and

- moving said grid more than one period during the ~~mammography~~ x-ray imaging.

09/734761

Claims 73-75 are canceled.

76. (New) The method according to claim 71, wherein:

said additional thicknesses are arranged such that a total length of said walls and said additional thicknesses intersected by a line propagating in the line of grid motion for the length of one period along the grid is substantially the same for any period along the line of grid motion.

77. (New) The method according to claim 71, wherein:

said additional thicknesses are added to said grid by a metal layer comprising only said additional thicknesses attached to the substrate.

78. (New) The method according to claim 70, wherein said motion includes:

moving said grid in a forward and reverse oscillatory motion along a substantially straight line, at a substantially uniform speed between each start and stop; and moving said grids more than one period between each start and stop.

79. (New) The method according to claim 71, wherein said motion includes:

moving said grid in a forward and reverse oscillatory motion along a substantially straight line, at a substantially uniform speed between each start and stop; and moving said grid more than one period between each start and stop.

80. (New) The method according to claim 72, wherein said motion includes:

moving said grid in a forward and reverse oscillatory motion along a substantially straight line, at a substantially uniform speed between each start and stop; and moving said grids more than one period between each start and stop.

81. (New) The method according to claim 70, wherein:

09/734,761

said intersecting walls form said openings in a periodic pattern in a direction along said top surface and in a direction perpendicular to said direction.

82. (New) The method according to claim 70, wherein:
at at least one said intersection point, said respective additional wall material is configured in a plurality of portions extending in opposite directions into different ones of said openings.

83. (New) The method according to claim 82, wherein:
each of said plurality of portions of said respective additional wall material have substantially the same area.

84. (New) The method according to claim 82, wherein:
said plurality of portions of said respective additional wall material have areas different from each other.

85. (New) The method according to claim 70, wherein:
said additional wall material at at least one said intersection point has two portions, each extending from a different one of said walls.

86. (New) The method according to claim 85, wherein:
said two sides extend substantially perpendicular to each other.

87. (New) The method according to claim 85, wherein:
said two sides extend at an angle other than 90° with respect to each other.

88. (New) The method according to claim 70, wherein:

09/23/761

said additional wall material at at least one said intersection point has a side extending in a substantially straight direction between two of said walls.

89. (New) The method according to claim 70, wherein:
at least one of said openings has a material disposed therein which is adapted to permit said electromagnetic energy to pass therethrough, and a second material suspended in said material which is adapted to substantially prohibit said electromagnetic energy from passing therethrough.

90. (New) The method according to claim 70, wherein:
at least one of said walls has a thickness different from at least one other of said walls.

91. (New) The method according to claim 70, wherein:
at least some of said walls intersect at an angle other than 90° with respect to each other.

92. (New) The method according to claim 70, wherein:
said grid further comprises a plurality of said layers which are stacked on top of each other such that walls of the layers are substantially aligned so that the openings in the layers are substantially aligned to form openings which pass entirely through the grid.

93. (New) The method according to claim 70, wherein:
said additional wall material at each said intersection point is connected to at least one of said walls.

94. (New) The method according to claim 70, wherein:
said additional wall material at at least one said intersection point is separated from all of said walls.

09/734,761

95. (New) The method according to claim 70, wherein said grid further comprises:

at least one second metal layer, comprising:

second top and bottom surfaces; and

a plurality of integrated, intersecting second walls, each of which extending from said second top to bottom surface and having a plurality of second side surfaces, said second side surfaces of said second walls being arranged to define a plurality of second openings extending entirely through said second layer; and

said first and second layers are stacked on top of each other such that said first and second walls of said first and second layers are substantially aligned so that said first and second openings in said first and second layers are substantially aligned to form openings which pass entirely through the grid.

96. (New) The method according to claim 95, wherein:

said first layer includes a material different from a material included in said second layer.

97. (New) The method according to claim 70, wherein said grid further comprises:

a plurality of said layers, at least one of said layers including a material different from a material included in any other of said layers.

98. (New) The method according to claim 70, wherein:

at least one said layer is attached to a substrate.

99. (New) The method according to claim 70, wherein:

said walls extend between said top and bottom surfaces at respective angles to focus at a point which is at a distance above or below from said top surface of said grid.

09/734,761

100. (New) The method according to claim 70, wherein:
said walls extend between said top and bottom surfaces substantially parallel to each other.

101. (New) The method according to claim 70, wherein:
a first group of said walls extending along said grid in a first direction parallel to said top and bottom surfaces are substantially parallel to each other; and
a second group of said walls extending along said grid in a second direction parallel to said top and bottom surfaces each extend between said top and bottom surfaces at a respective angle with respect to said top and bottom surfaces to focus at a line extending in a direction substantially parallel to said top surface at a distance from said top surface.

102. (New) The method according to claim 70, wherein:
at least one said layer includes a plurality of sections, adapted to couple together to form said at least one said layer.

103. (New) The method according to claim 70, wherein:
said additional thicknesses are arranged such that a total length of said walls and said additional thicknesses intersected by a line propagating in the line of grid motion for the length of one period along the grid is substantially the same for any period along the line of grid motion.

104. (New) The method according to claim 70, wherein:
said additional thicknesses are added to said grid by a metal layer comprising only said additional thicknesses attached to the substrate.